Claims:

1.   A method of constructing a multi-type feature vector comprising the steps of:

obtaining a user's communication interest;

obtaining network attributes;

obtaining application attributes; and

forming a feature vector based on the obtained communication interest, network attributes, and application attributes.

2.   A method of clustering a multi-type vector space comprising the steps of:

obtaining network attributes from a network having a plurality of nodes;

obtaining application attributes of an application; and

clustering the network nodes based on the obtained network attributes and on the obtained application attributes.

3.   The method of claim 2 such that clustering is performed by a fusion method in which network nodes are clustered in each attribute space on subspace classifiers.

4.   The method of claim 2 such that clustering is performed by a nested method in which network nodes are initially clustered based on a sub-set of attributes and then re-clustered by iteratively considering additional attributes.

5.   The method of claim 2, further comprising forming network delay maps and forward capacity maps from the obtained network attributes, and such that clustering is based on the formed network delay maps and on forward capacity maps.

6.   The method of claim 2, further comprising obtaining client communication interest and clustering the network nodes based on the obtained client communication interest.

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7.   The method of claim 2, in which obtaining application attributes includes obtaining information regarding collaborative usage of the application.

8.   The method of claim 2, in which obtaining network attributes includes obtaining network path loss information, and such that clustering is based on the path loss information.

9.   The method of claim 2, such that clustering is based on bandwidth constraints.

10.   The method of claim 2, such that clustering is based on a weighted distance function modeled from normalized attribute subspace metrics.

11.   A method of clustering network nodes comprising the steps of:
       forming network attribute maps of network constraints;
       forming a communication interest space map of application constraints;
       extracting feature vectors from the communication interest space map;
       extracting network feature vectors from the network attribute maps;
       obtaining network quality of service constraints; and
       forming a list of labeled nodes based on network and application constraints.

12.   The method of claim 11, wherein forming network attribute maps includes the steps of:
       forming delay maps from measured network delays;
       forming a path loss map based on network path losses;
       forming a bandwidth map based on the node bandwidths; and
       forming a forwarding capacity map based on the forwarding capacity at the network nodes.

13.   The method of claim 11, further including clustering based on the feature vectors and on network quality of service constraints.

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14.   A computer readable media for storing a computer program that performs the steps of:

obtaining network attributes from a network having a plurality of nodes;

obtaining application attributes; and

clustering the network nodes based on the obtained network attributes and on the obtained application attributes.

15.   The computer readable media of claim 14 in which the computer program performs clustering using a fusion method and such that network nodes are clustered in each attribute space and on subspace classifiers.

16.   The computer readable media of claim 14 in which the computer program performs clustering based on a sub-set of attributes and then re-clusters by iteratively considering additional attributes.

17.   The computer readable media of claim 14 in which the computer program forms network delay maps and forward capacity maps from the obtained network attributes, and such that clustering is based on the network delay maps and on the forward capacity maps.

18.   The computer readable media of claim 14 in which the computer program obtains client communication interest and clusters the network nodes based on the client communication interest.

19:     The computer readable media of claim 14 in which the computer program obtains application attributes regarding collaborative usage.

20.   The computer readable media of claim 14 in which the computer program obtains network attributes that include network path loss information, and such that clustering is based on the path loss information.

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